JOURNAL OF ANATOMY

1048

QL
801
J7

CONDUCTED ON BEHALF OF THE ANATOMICAL SOCIETY
OF GREAT BRITAIN AND IRELAND BY

G. CAUSEY
R. E. COUPLAND
J. T. EAYRS
T. W. GLENISTER
E. G. GRAY
W. J. HAMILTON
R. L. HOLMES
J. D. LEVER
G. J. ROMANES
R. J. SCOTHORNE
R. J. HARRISON (EDITOR)

VOLUME 101
JANUARY 1967—SEPTEMBER 1967

CAMBRIDGE
AT THE UNIVERSITY PRESS
1967

PUBLISHED BY
THE SYNDICS OF THE CAMBRIDGE UNIVERSITY PRESS
Bentley House, 200 Euston Road, London, N.W.1
American Branch: 32 East 57th Street, New York, N.Y. 10022

Printed in Great Britain at the University Printing House, Cambridge

Contents

PART 1—JANUARY 1967

PAGE

The nerve fibre composition of the cat optic nerve. By ANN DONOVAN . . 1

Oxidative enzyme activity in macroglia and axons of cat optic nerve. By MICHAEL J. BLUNT, C. P. WENDELL-SMITH, P. B. PAISLEY and F. BALDWIN 13

The segmental distribution of acetyl cholinesterase in the cat spinal cord. By UROS ROESSMANN and REINHARD L. FRIEDE. 27

Secondary olfactory connexions and the anterior commissure in the coypu, *Myocastor coypus*. By MAKRAM GIRGIS and F. GOLDBY. 33

The cellular response to nerve injury. 2. Regeneration of the perineurium after nerve section. P. K. THOMAS and D. G. JONES 45

The fine structure of the absorptive epithelial cells of the developing small intestine of the rat. By J. SHAW DUNN 57

The ultrastructure of developing gastric parietal cells in the foetal rabbit. By A. F. HAYWARD 69

Some aspects of fixation with glutaraldehyde. A biochemical and histochemical comparison of the effects of formaldehyde and glutaraldehyde fixation on various enzymes and glycogen, with a note on penetration of glutaraldehyde into liver. By D. HOPWOOD 83

The droplets of immature rat kidney. By D. PUGH 93

The relationship of hyaluronate and collagen in the bovine vitreous body. By J. W. SMITH and A. SERAFINI-FRACASSINI 99

The vulnerability of the growth cartilage to survive after transposition. By M. SARRIAS 113

The innervation of the diaphysis of the cat tibia. By J. TOKUNAGA . . 125

The anatomy, histology and histochemistry of the rectal gland in the lip-shark *Hemiscyllium plagiosum* (Bennett). By D. K. O. CHAN and J. G. PHILLIPS 137

Direct observations on the function of the capsule of the sterno-clavicular joint in clavicular support. By J. G. BEARN 159

A note on arachnoid villi in relation to human optic nerves. By A. D. P. JAYATILAKA 171

BOOK REVIEWS 175

BOOKS RECEIVED 178

PROCEEDINGS, JULY 1966 179

PART 2—APRIL 1967

PAGE

Extracellular space in the cerebral cortex of the mouse. By A. Van Harreveld and S. K. Malhotra 197

A degeneration and electron microscopic study of the nucleus hypothalamicus ventromedialis of the cat. By W. W. Kaelber and C. R. Leeson . . 209

Cilia and centrioles of the rat adrenal cortex. By D. N. Wheatley . . 223

The effects of divalent cations on the ultrastructure of the perfused rat heart. By A. R. Muir 239

Variations in development of mouse blastocysts. By A. D. Dickson . . 263

Adherence and fusion between the extremities of adjacent embryonic sacs in the pig. By R. R. Ashdown and A. W. Marrable 269

The origin and development of the hippomanes in the horse and zebra. 1. The location, morphology and histology of the hippomanes. By J. M. King 277

The origin and development of the hippomanes in the horse and zebra. 2. The chemical composition of the foetal fluids and hippomanes. By J. W. T. Dickerson, D. A. T. Southgate and J. M. King . . 285

Acetylcholinesterase at muscle-tendon junctions during postnatal development in rats. By L. Lubińska and J. Zelená. 295

The origin, development and differentiation of Brunner's glands in the rat. By W. J. Krause and C. R. Leeson 309

Topography and development of anterior nasal glands in pigs. By Finn Bojsen-Møller 321

The distribution of nerves, monoamine oxidase and cholinesterase in the skin of the sheep and goat. By D. McEwan Jenkinson and P. S. Blackburn. 333

Histological changes in constricted arteries and arterioles. By J. R. Hayes . 343

A comparative anatomical study of the distribution of the cystic artery in man and other species. By K. C. D. Gordon 351

Epigenetic variation in the human cranium. By A. Caroline Berry and R. J. Berry 361

Arterial anastomoses in the head and neck of the sheep. By N. D. S. May . 381

Book Reviews 389

PART 3—JUNE 1967

Quantitative histology of optic nerve, optic tract and lateral geniculate nucleus of man. By C. Kupfer, L. Chumbley and J. De C. Downer. . . 393

Dendritic patterns in the somatic sensory cortex of the cat. By Joseph M. Mungai. 403

PAGE

The tangential organization of dendrites and axons in three auditory areas of the cat's cerebral cortex. By W. C. WONG 419

Light and electron microscopy of developing germ cells and follicle cells in the ovary of the golden hamster: twenty-four hours before birth to eight days *post partum*. By BRENDA S. WEAKLEY 435

A histochemical and biochemical study of some aspects of placental function in the rat using maternal injection of horse-radish peroxidase. By F. BECK, J. B. LLOYD and A. GRIFFITHS 461

Cells with two cilia in the rat adenohypophysis. By D. N. WHEATLEY . . 479

Nuclear area and deoxyribonucleic acid content in human liver cell nuclei. By E. S. MEEK and J. F. A. HARBISON 487

Histological studies of the skin follicle types of the rat with special reference to the structure of the Huxley layer. By G. C. PRIESTLEY 491

The innervation of the knee joint. An anatomical and histological study in the cat. By M. A. R. FREEMAN and BARRY WYKE 505

Blood flow rates in compact and cancellous bone and bone marrow. By MURRAY BROOKES 533

The intraosseous vasculature of the ulna of *Gallus domesticus*. By G. D. BEAUMONT 543

The cardiac veins of *Gallus domesticus*. By FLORA E. F. LINDSAY. . . . 555

Renal portal shunts in the kidney of the domestic fowl. By A. R. AKESTER . 569

BOOK REVIEWS 595

BOOKS RECEIVED 599

PROCEEDINGS, NOVEMBER 1966 601

PART 4—SEPTEMBER 1967

The density of synapses and neurones in the motor and visual areas of the cerebral cortex. By B. G. CRAGG 639

The development of the human hippocampal fissure. By TRYPHENA HUMPHREY 655

Projections from the lateral geniculate nucleus in the cat and monkey. By M. E. WILSON and B. G. CRAGG 677

Characteristics of the ocular fundus in primates. By LEE R. WOLIN and L. C. MASSOPUST, JR 693

The neurons of the gall bladder and gut. By SHEILAH D. SUTHERLAND . . 701

Enterochromaffin cells and 5-hydroxytryptamine content of the colon of mice. By G. C. SCHOFIELD, A. K. S. HO and J. M. SOUTHWELL 711

PAGE

Adrenocortical cytogenesis in the adult male golden hamster. A radioautographic study using tritiated-thymidine. By RUSSEL J. REITER and ROGER A. HOFFMAN 723

A note on the development of the tubotympanic recess in the human embryo. By R. KANAGASUNTHERAM 731

The development of the human taste bud during the foetal period. By R. M. BRADLEY and IRVING B. STERN 743

The cell density of human articular and costal cartilage. By R. A. STOCKWELL 753

Division of the neck of the mandible in rats. By R. SPRINZ 765

A molybdate-activated phosphatase in arterio-venous anastomoses and in nerve ganglia satellite cells. L. M. FRANKS, VIVIANE MAGGI and A. W. CARBONELL 777

Histochemistry of lysosomal enzymes in developing teeth of albino rats. By E. KATCHBURIAN, A. V. KATCHBURIAN and A. G. E. PEARSE . . . 783

Fine structure of crystalline inclusions in the globule leucocyte of the mouse intestine. By KATHARINE E. CARR 793

Experimental formation of lymphatic nodules in the thymus of guinea-pigs after injection of serotonin. By M. KOTANI, A. MANABE, A. YAMASHITA, K. SEIKI and I. HORII 805

Diaphysial nutrient foramina in human long bones. By V. R. MYSOREKAR . 813

The sites of early epiphysial union in the limb girdles and major long bones of man. By R. W. HAINES, A. MOHIUDDIN, F. I. OKPA and J. A. VIEGA-PIRES 823

PROCEEDINGS, FEBRUARY 1967 833

INDEX AND SUPPLEMENTARY INDEX OF PROCEEDINGS 849